an output from the multiplexing timing generator and sending it to the digital recording means; and

a bit stuffing circuit adapted to fill insufficient data with bit streams or dummy bits when the output of the frame extracting means is at an underflow state.

5. The apparatus of claim 1, wherein the frame position information recording means comprises:

a frame position recorder adapted to receive said output from the multiplexing timing generator and thereby output position discrimination information to the digital recording means so as to record position information of a next specific tracks on the initial synchronous block of the track recorded with the specific data; and

an index signal recorder adapted to receive the position discrimination information and thereby record position information and thereby record position information of said track recorded with the specific data on the control track of the magnetic tape by an index head.

6. The apparatus of claim 1, wherein the frame position information detecting means comprises:

an index signal detector adapted to detect index information recorded on the control track of the magnetic tape and indicative of whether tracks of specific data are present, by use of an index head;

a recording position-synchronized block detector adapted to detect the output from the digital reproduction means and thereby detect recording position-synchronized blocks recorded with codes indicative of relative position information of the tracks recorded with the specific data; and

a recording position decoder adapted to decode an output of the recording position-

synchronized block detector, based on a speed multiple, and thereby output a signal for calculation of a capstan servo speed.

7. The apparatus of claim 1, wherein the speed controlling means comprises:

a capstan servo speed calculator adapted to calculate a capstan servo speed for repeating a normal speed travel and a high speed travel on specific tracks in a speed-varied reproduction of specific track position information and track position information for specific data from the frame position information detecting means based on a speed multiple; and

a capstan servo drive signal generator adapted to control driving of the capstan motor, based on an output of the capstan servo speed calculator.

8. The apparatus of claim 1, wherein the frame removing means comprises:

a deformatter adapted to convert the output of the digital reproduction means to a signal form prior to recording;

a stuffing bit-detecting and removing circuit adapted to output a bit removing signal to the deformatter and thereby remove stuffing bits or dummy bits added for preventing generation of an underflow of the frame extracting means in the speed-varied reproduction; and

a frame removal timing generator adapted to receive the specific track position information from the frame position information detecting means and output a frame removing signal to the deformatter, based on a head switching signal, thereby preventing outputting of the specific data for the varied speed in a normal-speed reproduction.